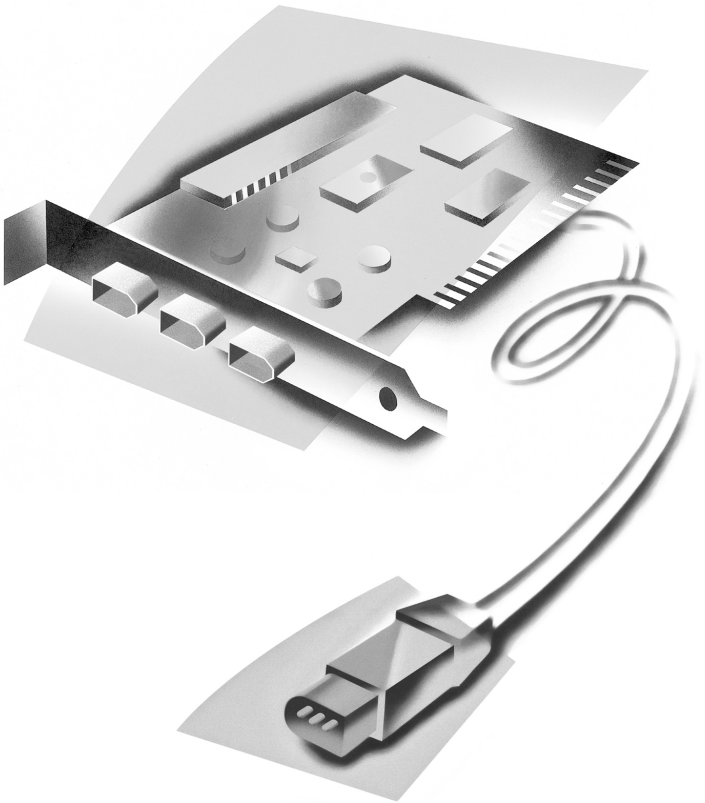
# AFW-8300

## Firewire Host Bus Adapter

## User's Guide



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## Adaptec Customer Support

If you have questions about installing or using your Adaptec product, check this document first—you will find answers to most of your questions here. If you need further assistance, use the support options listed below.

### *Technical Support Identification (TSID) Number*

- Before contacting Technical Support, you need your unique 12-digit TSID number. The TSID number identifies your product and support status.
- The TSID number is included on two white, bar-coded labels, like the example below.

IMPORTANT INFORMATION!
AFFIX SERIAL NUMBER STICKER ON THE RETURN PORTION OF THE REGISTRATION CARD.
THIS TSID NUMBER WILL BE REQUIRED WHEN CONTACTING TECHNICAL SUPPORT.
TSID:100000000000
(1P) PRODUCT P/N: 1000000
(S) PRODUCT S/N: BB00000000000
TSID:100000000000
(1P) PRODUCT P/N: 1000000
(S) PRODUCT S/N: BB00000000000

### *Support Options*

- Search the Adaptec Support Knowledgebase (ASK) at ask.adaptec.com for articles, troubleshooting tips, and frequently asked questions for your product.
- For support via e-mail, submit your question to Adaptec's Technical Support Specialists at ask.adaptec.com.
- To order Adaptec products, including accessories and cables, call +1 408-957-7274. Or, you can order cables online at www.adaptec.com/buy-cables.

### *Europe*

- Visit our Web site at www.adaptec-europe.com.
- **German:** Search the Adaptec Support Knowledgebase (ASK) at ask-de.adaptec.com for articles, troubleshooting tips, and frequently asked questions for your product.

  For support via e-mail, submit your question to Adaptec's Technical Support Specialists at ask-de.adaptec.com.
- **French:** Search the Adaptec Support Knowledgebase (ASK) at ask-fr.adaptec.com for articles, troubleshooting tips, and frequently asked questions for your product.

  For support via e-mail, submit your question to Adaptec's Technical Support Specialists at ask-fr.adaptec.com.
- **English:** Search the Adaptec Support Knowledgebase (ASK) at ask.adaptec.com for articles, troubleshooting tips, and frequently asked questions for your product.

  For support via e-mail, submit your question to Adaptec's Technical Support Specialists at ask.adaptec.com.
- To order Adaptec products, including accessories and cables, go to www.adaptec.com/buy-cables.

### *Japan*

- Search the Adaptec Support Knowledgebase (ASK) at ask.adaptec.co.jp.
- Visit our Web site at www.adaptec.co.jp.

## Limited 5-Year Hardware Warranty

1. Adaptec, Inc. ("Adaptec") warrants to the purchaser of this product that it will be free from defects in material and workmanship for a period of five (5) years from the date of purchase. If the product should become defective within the warranty period, Adaptec, at its option, will repair or replace the product, or refund the purchaser's purchase price for the product, provided it is delivered at the purchaser's expense to an authorized Adaptec service facility or to Adaptec.
2. Repair or replacement parts or products will be furnished on an exchange basis and will either be new or reconditioned. All replaced parts or products shall become the property of Adaptec. This warranty shall not apply if the product has been damaged by accident, misuse, abuse or as a result of unauthorized service or parts.
3. Warranty service is available to the purchaser by delivering the product during the warranty period to an authorized Adaptec service facility or to Adaptec and providing proof of purchase price and date. The purchaser shall bear all shipping, packing and insurance costs and all other costs, excluding labor and parts, necessary to effectuate repair, replacement or refund under this warranty.
4. For more information on how to obtain warranty service, write or telephone Adaptec at 691 South Milpitas Boulevard, Milpitas, CA 95035, (800) 959-7274.
5. THIS LIMITED WARRANTY DOES NOT EXTEND TO ANY PRODUCT WHICH HAS BEEN DAMAGED AS A RESULT OF ACCIDENT, MISUSE, ABUSE, OR AS A RESULT OF UNAUTHORIZED SERVICE OR PARTS.
6. THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES WHICH NOW OR HEREAFTER MIGHT OTHERWISE ARISE RESPECT TO THIS PRODUCT. IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT SHALL (A) HAVE NO GREATER DURATION THAN 5 YEARS FROM THE DATE OF PURCHASE, (B) TERMINATE AUTOMATICALLY AT THE EXPIRATION OF SUCH PERIOD AND (C) TO THE EXTENT PERMITTED BY LAW BE EXCLUDED. IN THE EVENT THIS PRODUCT BECOMES DEFECTIVE DURING THE WARRANTY PERIOD, THE PURCHASER'S EXCLUSIVE REMEDY SHALL BE REPAIR, REPLACEMENT OR REFUND AS PROVIDED ABOVE. INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION LOSS OF DATA, ARISING FROM BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ARE NOT THE RESPONSIBILITY OF ADAPTEC AND, TO THE EXTENT PERMITTED BY LAW, ARE HEREBY EXCLUDED BOTH FOR PROPERTY DAMAGE, AND TO THE EXTENT NOT UNCONSCIONABLE, FOR PERSONAL INJURY DAMAGE.
7. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR CONSUMER PRODUCTS, AND SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION OR EXCLUSIONS MAY NOT APPLY TO YOU.
8. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

## Regulatory Compliance Statements

### Federal Communications Commission Radio Frequency Interference Statement

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. However, if this equipment does cause interference to radio or television equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.
- Use a shielded and properly grounded I/O cable and power cable to ensure compliance of this unit to the specified limits of the rules.

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

Adaptec, Inc. AFW-8300

FC Tested to Comply
With FCC Standards

FOR HOME OR OFFICE USE

CE

### European Union Compliance Statement

This Information Technology Equipment has been tested and found to comply with EMC Directive 89/336/EEC, as amended by 92/31/EEC and 93/68/EEC, in accordance with:

- EN55022 (1998) Emissions
- EN55024 (1998) Immunity:
  - EN61000-4-2 (1998) Electrostatic discharge: ±4 kV contact, ±8 kV air
  - EN61000-4-3 (1998) Radiated immunity
  - EN61000-4-4 (1995) Electrical fast transients/burst: ±1 kV AC, ±0.5 kV I/O
  - EN61000-4-5 (1995) Surges ±1 kV differential mode, ±2 kV common mode
  - EN61000-4-6 (1996) Conducted immunity: 3 V
  - EN61000-4-11 (1994) Supply dips and variation: 30% and 100%

In addition, all equipment requiring U.L. listing has been found to comply with EMC Directive 73/23/EEC as amended by 93/68/EEC in accordance with EN60950 with amendments A1, A2, A3, A4, A11.

### Australian/New Zealand Compliance Statement

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to the Australian/New Zealand standard AS/NZS 3548 set out by the Spectrum Management Agency.

### Canadian Compliance Statement

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

### Japanese Compliance (Voluntary Control Council Initiative)

This equipment complies to class B Information Technology equipment based on VCCI (Voluntary Control Council for Interface). This equipment is designed for home use but it may causes radio frequency interference problem if used too near to a television or radio. Please handle it correctly per this documentation.

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This *User's Guide* explains how to install the AFW-8300 host adapter and the device driver in your Windows or Macintosh desktop computer, and shows how to connect the AFW-8300 to your Digital Video (DV) camcorder or other 1394 device using standard 1394 cables.

**Note:** The 1394 digital interface is also known as FireWire®.

# System Requirements

The minimum system requirements for the AFW-8300 are:

## For Windows Computers

- Intel® Pentium III with 500 MHz or faster CPU
- 128MB of RAM
- Microsoft Windows® 98SE, Microsoft Windows 2000®, Windows Me®, or Windows XP®
- Available PCI slot (see *This is Your AFW-8300 Host Adapter* on page 3 for more information)
- CD-ROM drive

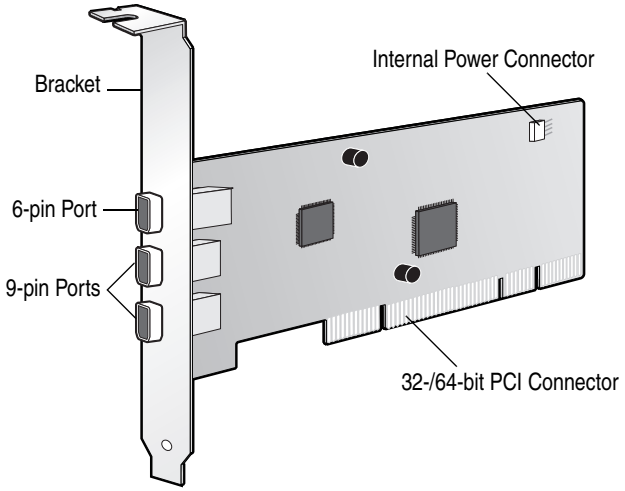
## For Macintosh Computers – FireWire 800

- Apple® Power Macintosh® G4 (with AGP slot) or later
- 128 MB of RAM
- Mac OS X 10.2.5 or later
- Available PCI slot (see *This is Your AFW-8300 Host Adapter* on page 3 for more information)
- CD-ROM drive

### For Macintosh Computers – FireWire 400

- Power Macintosh Blue & White G3 or later
- 96 MB of RAM
- Mac OS 9.1 or later
- Available PCI slot (see *This is Your AFW-8300 Host Adapter* on page 3 for more information)
- CD-ROM drive

# This is Your AFW-8300 Host Adapter




The AFW-8300 host adapter is a 64-bit universal PCI card. It will work in either a 32-bit or 64-bit PCI slot; however, when it is plugged into a 64-bit slot, it provides better performance because it is able to transfer more data simultaneously.

## About the Internal Power Connector

The AFW-8300 host adapter can provide up to 1 A of power to a single port, or a total of 1.5 A of power across all three ports if more than one port is in use. You can increase the amount of power available to connected devices by connecting the internal power connector (shown above) to a power supply within your computer.

Refer to the documentation that came with your computer for more information.

# Installing Your AFW-8300

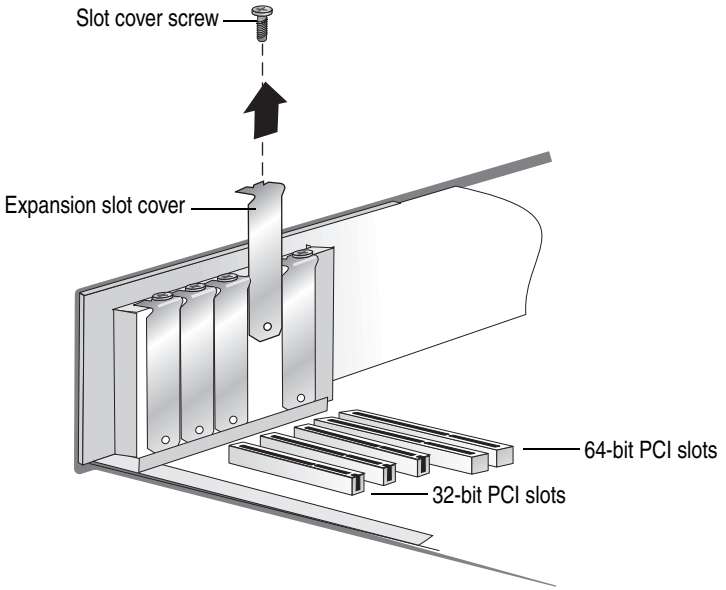
To install the AFW-8300:

1 Discharge any static electricity by touching a grounded metal object (such as the exposed metal parts on the back of your computer) before handling the adapter.

> **Caution:** Handle the adapter by its edges or metal bracket. *Do not* touch the gold connector or any components on the adapter.

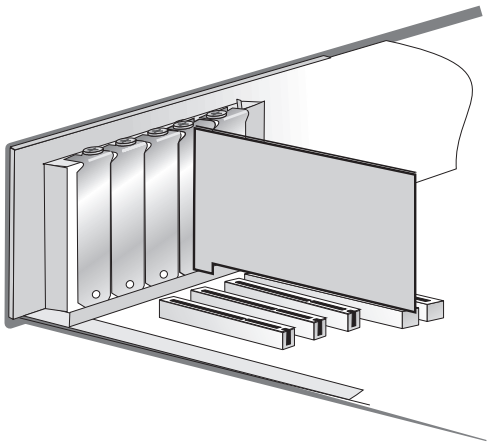
2 Turn off your computer and disconnect the power cord. Open the computer cabinet, following the manufacturer's instructions.

3 Locate an unused 32-bit or 64-bit PCI expansion slot and remove the expansion slot cover. Save the slot cover screw for use in Step 5.



4 Insert the AFW-8300 into the PCI expansion slot. Press down firmly until the adapter clicks into place. When installed properly, the adapter should appear level with the expansion slot.

**Note:** Depending on the tightness of the PCI slot, gentle but firm force may be required to insert the adapter.



5 Secure the adapter bracket with the slot cover screw you removed in Step 3.

6 If you plan to use FireWire devices that, when combined, draw more than 1.5 A of power, plug an internal power cable to the adapter's internal power connector. (See *About the Internal Power Connector* on page 3 for more information.)

7 Close the computer cabinet, reattach the power cord, then turn on the computer.

To register your AFW-8300, go to register.adaptec.com.

# Installing the Driver

After you've installed the AFW-8300, you must install the driver. Follow the instructions provided for your operating system (OS).

## Windows Computers

Before you begin, ensure you have the most recent Windows OS updates installed on your computer. Refer the Microsoft Web site to download updates.

1 When you power on your computer, Windows automatically detects the new host adapter and loads an embedded driver.

**Note:** When this *Guide* was printed, Microsoft 1394 drivers supported FireWire 400 speeds (400 Mbps) only.

2 Restart your computer if you are prompted to do so.

3 Go to the Windows Device Manager and check to see if the host adapter is installed correctly under the IEEE 1394 Bus Host Controller section.

## Macintosh Computers

**Note:** Only FireWire 400 is supported on the AFW-8300 in Mac OS 9.1 – Mac OS X 10.2.4.

If you are using Macintosh OS X, no driver installation is required. Your AFW-8300 works with the drivers built in to your OS.

If you are using an earlier version of the Macintosh OS, verify that the necessary drivers are installed on your computer by going to the **System** folder and opening the **Extensions** folder. FireWire Support and FireWire Enabler should be listed. If these files are not listed, go to www.info.apple.com and download the latest FireWire software.

**Note:** Ensure you have the latest FireWire software installed on your computer before contacting Adaptec for technical support.

# Connecting Your AFW-8300

This section provides basic instructions for connecting your AFW-8300 to your 1394 devices.

## Understanding Cables and Connectors

Your AFW-8300 host adapter has two 9-pin ports and one 6-pin port. The 9-pin ports are *bilingual*, which means that they can connect to both 1394a (FireWire 400) and 1394b (FireWire 800) devices.

FireWire (1394) devices and cables can have 4-pin, 6-pin, or 9-pin connectors. Ensure that you have the proper cables to connect your 1394 devices to your AFW-8300 adapter, using the Table below as a guide. You can connect up to 63 devices to the AFW-8300.:

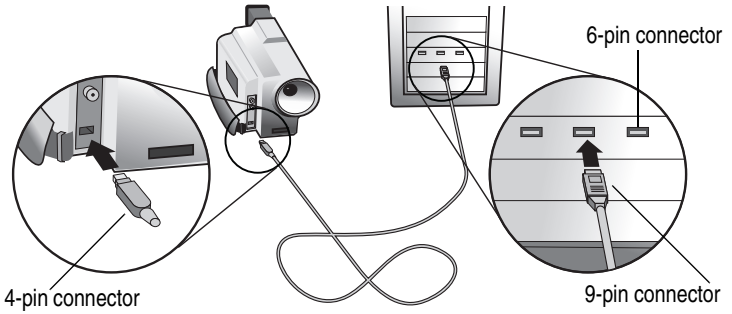
| AFW-8300 Port | 1394 Device | Cables |
|---|---|---|
| 6-pin Port | FireWire 400/1394a (4-pin) | 6-pin-to-4-pin |
| 6-pin Port | FireWire 400/1394a (6-pin) | 6-pin-to-6-pin |
| 9-pin Port | FireWire 400/1394a (4-pin)[1] | 9-pin-to-4-pin |
| 9-pin Port | FireWire 400/1394a (6-pin) | 9-pin-to-6-pin |
| 9-pin Port | FireWire 800/1394b (9-pin) | 9-pin-to-9-pin |

[1] FireWire 400 devices will not perform at FireWire 800 speeds even when connected to a FireWire 800/1394b port.

# Connecting a Digital Video Camera

You need a standard 6-to-4-pin or 9-to-4-pin 1394 cable to connect your DV camera to your AFW-8300. To complete the connection:

**1** Plug the 6-pin or 9-pin connector into the appropriate external 1394 port on your AFW-8300.




**2** Plug the 4-pin connector into the 1394 port on your DV camera.

**Caution:** As you insert the 4-pin connector into the DV camera, make sure the connector and the 1394 port are properly aligned. If the connector and port aren't aligned correctly, the pins can bend and damage the internal connector of the camera.

## Hot-Plugging

The AFW-8300 host adapter supports hot-plugging, which means you can connect or disconnect your 1394 devices while your computer is powered on.

Device manufacturers support hot-plugging in different ways. Please refer to your device documentation for specific information.

# Troubleshooting

If you have any problems installing or using the AFW-8300, work through these suggestions:

- Ensure that your 1394 DV camera or device is powered on.
- Make sure the 1394 cable is properly connected to both the AFW-8300 and your DV camera or other 1394 device.
- Ensure that all 1394 devices are turned on, and all cables and power cords are plugged in. Ensure that the 1394 cables are no more than 15 feet (4.5 meters) long.
- Ensure that you have installed any software included with your 1394 devices. Check the manufacturer's Web site for the latest software.
- Open your computer cabinet and ensure that the adapter is seated completely and evenly in the PCI slot.
- Move the adapter to a different PCI slot if the driver fails to load.
- Ensure that bus mastering support is provided and enabled for the PCI slot containing the AFW-8300. (Check your motherboard documentation for instructions.)
- Check the Windows 2000 Event Log if you encounter problems loading the drivers on your Windows 2000 operating system.
- If you encounter problems with an attached 1394 device, try quitting and restarting any applications that use that device.
- If you are running Macintosh OS X, ensure that the device is supported by the operating system. If the device is supported but is not functioning properly, check with the device manufacturer for updated drivers or firmware.

  If you are running an earlier version of the Macintosh operating system, ensure that the most up-to-date device drivers are installed. If the device is still not functioning properly, check with the device manufacturer for updated drivers or firmware.

If you are still unable to resolve a problem, refer to the Adaptec Web site at www.adaptec.com, or the Adaptec Support Knowledgebase at ask.adaptec.com for additional troubleshooting information.

**Note:** Ensure you have the latest FireWire software installed on your computer before contacting Adaptec for technical support.

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